



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Weighing/Load Receiving Element
 Digital Electronic
 Model: apex
 n_{max} : See table in SFO box
 e_{min} : 0.1 lb (0.05 kg)
 Capacity: See table in SFO box
 Platform: See dimension and area information in SFO box
 Accuracy Class: III

Submitted By:

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Standard Features and Options**Capacity Description:**

Capacity	n_{max}	Load Cell Used
500 lb (225 kg)	5000	NTEP certified
600 lb (270 kg)	6000	Non-NTEP Certified

Platform Construction:

- Mild steel frame
- Plastic Platter

Platform Dimensions and Area:

- Platform dimensions of device evaluated: 17 in x 17 in (43.18 cm x 43.18 cm).
- Maximum platform area: 289 sq in (1864.5 sq cm).
- The platform length or width can be 125% greater than the evaluated dimensions (maximum of 21.25 in (45 cm)), but overall platform area cannot exceed 289 sq in.

Options:

- Height rod (not evaluated by NTEP).
- Indicator mounting column.

NTEP and non-NTEP Load Cell:

- The load cell used during the evaluation was a Cardinal Scale Manufacturing Company, model SPZ (listed on Certificate of Conformance Number 21-074), which can be substituted with another NTEP certified and metrologically equivalent load cell if the scale n_{max} is 5000 or less.
- For n_{max} values >5000 up to 6000, the evaluated load cell must be used.

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of *Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices*. Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages. *Editorial changes, not affecting the type or metrological content, corrected this certificate.

Ivan Hankins
 Chairman, NCWM, Inc.

Hal Prince
 Chair, NTEP Committee
 Issued: September 14, 2021

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Cardinal Scale Manufacturing Company

Weighing/Load Receiving Element / apex

Application: General purpose weighing/load receiving element when connected to an NTEP certified and compatible indicating element.

Identification: The identification information is printed on a tamper-proof security label affixed to the platform. The plastic stand-on cover can be removed to find the label.

Sealing: The load receiving element has no metrological functions that require the use of a security seal. Calibration and configuration of the scale are done through the indicator and sealed according to the manufacturer's instructions for the indicator used.

Test Conditions: For this evaluation a Cardinal Scale Model Apex 17 in x 17 (43.18 cm x 43.18 cm) in 600 lb x 0.1 lb capacity weighing/load receiving element was submitted. The weighing element was attached to a Cardinal Scale indicating element Model 205 (Certificate Number 01-011). The emphasis of the evaluation was on device design, operation, marking requirements, performance, and compliance with influence factor requirements. Multiple increasing/decreasing load and eccentricity tests were performed. Discrimination and zone of uncertainty tests were conducted. The load receiving element was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). A load of approximately one-half scale capacity was applied to the weighing/load receiving element over 100 000 times and at the conclusion of permanence testing increase/decrease and eccentricity testing was repeated.

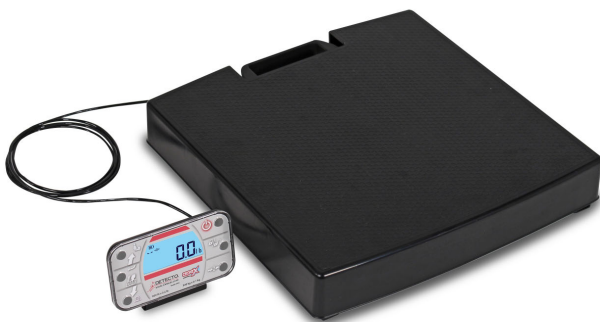
Evaluated By: J. Gibson (OH)

Type Evaluation Criteria Used: *Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2020 Edition. *NCWM Publication 14: Measuring Devices*, 2021 Edition.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: D. Flocken (NCWM)

Example(s) of Device:



Remote-mounted indicator (no column)



Column-mounted indicator